In the Claims

The status of claims in the case is as follows:

We claim:

- 1. [Currently amended] A decoupling capacitor,
- 2 comprising:
- a fixed resistance in series with said capacitor, said
- 4 capacitor formed by a polysilicon layer and a diffusion
- 5 layer, said fixed resistance formed by contacts
- 6 connecting said polysilicon layer to a first voltage
- 7 level buss and said diffusion layer to a second voltage
- 8 level buss; and
- 9 said contacts being of location and quantity and
- 10 <u>capacity</u> for <u>protecting surrounding circuits in the</u>
- 11 event there is a defect shorting said busses together
- by limiting defect current while allowing said
- capacitor to function at a frequency sufficiently high
- 14 to suppress noise on said first and second busses to a
- value which achieves bus stability.

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1	2.	[Currently	amended]	The	decoupling	capacitor	Of	Claim	n
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- 2 1, further comprising:
- 3 said contacts including a first set of contacts to a
- 4 first voltage and a second set of contacts to a second
- 5 voltage;
- a defect leakage current limiting path including said
- first set and said second sets of contacts separated by
- a distance optimized to cause a defect shorting said
- 9 polysilicon gate polysilicon layer to said substrate to
- 10 force defect current to travel from said first set of
- 11 contacts through a section of the substrate, then to
- the polysilicon through the defect, and then along the
- rest of the polysilicon gate polysilicon layer to said
- 14 second set of contacts.
- 3. [Original] The decoupling capacitor of claim 2,
- 2 further comprising:
- 3 said first set of contacts and said second set of

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4	contacts determined in number and location to provide
5	preselected minimum and maximum resistance values
6	between said first and second sets of contacts, said
7	minimum resistance value for achieving a preselected
8	maximum leakage current through any defect site in said
9	polysilicon layer, and said maximum resistance value
10	for achieving a preselected overall decoupling RC

factor sufficient for a minimum RC network bandwidth.

- 1 4. [Original] The decoupling capacitor of claim 3,
- 2 further comprising providing said first and second sets of
- 3 contacts in sufficient number to effectively achieve total
- 4 contact resistance less than 10% of combined sheet
- 5 resistance of said diffusion and polysilicon layers across a
- 6 distance separating said first and second sets of contacts.
- 5. [Original] The decoupling capacitor of claim 2,
- 2 further comprising providing N pairs of contacts in said
- 3 sets of contacts and placing said first and second sets of
- 4 contacts separated by a distance K sufficient to achieve a
- 5 leakage limiting resistance of R and a bandwidth limiting
- 6 resistance of R/2.

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1 [Original] The decoupling capacitor of claim 2, 6.

Attorney at Law

- further comprising providing a technology-dependent number 2
- of contacts selected in number sufficient to achieve total 3
- contact resistance less than 10% of combined sheet 4
- resistance of said diffusion and polysilicon layers across a 5
- distance separating said first and second sets of contacts. 6
- 1 [Withdrawn] A method for determining the number and 7.
- position of contacts in a decoupling capacitor including a 2
- 3 polysilicon layer and a diffusion layer, comprising:
- determining a maximum allowable defect current I for
- 5 IDDQ testing of said capacitor;
- determining a minimum sheet resistance R to achieve 6
- 7 said defect current I;
- determining minimum distance K between first and second 8
- sets of said contacts to achieve said minimum sheet 9
- 10 resistance R;
- determining number of said contacts N in said sets of 11
- contacts to provide sufficiently low contact resistance 12

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to assure said minimum sheet resistance R dominates 13

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14	total resistance between said first and second sets of
15	contacts; and
16	providing in said decoupling capactior contact sites of
17	sufficient area to accommodate N said contacts with
18	said first and second sets of said contacts separated
19	by at least distance K.
1	8. [Withdrawn] A program storage device readable by a
2	machine, tangibly embodying a program of instructions
3	executable by a machine to perform method steps for
4	determining the number and location of contacts in a
5	decoupling capacitor including a polysilicon layer and a
6	diffusion layer, said method comprising:
7	determining a maximum allowable defect current I for
8	IDDQ testing of said capacitor;
9	determining a minimum sheet resistance R to achieve
10	said defect current I;
11	determining minimum distance K between first and second
12	sets of said contacts to achieve said minimum sheet
13	resistance R;
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14	determining number of said contacts N in said sets of
15	contacts to provide sufficiently low contact resistance
16	to assure said minimum sheet resistance R dominates
17	total resistance between said first and second sets of
18	contacts; and
19	defining in said decoupling capacitor contact sites of
20	sufficient area to accommodate N said contacts with
21	said first and second sets of said contacts separated
22	by at least distance K.